

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier.

1. (Previously Presented) A plasma injector assembly for use in a munition having a central axis, the plasma injector assembly comprising:

a stub case for attachment to the munition along the central axis;

an anode positioned in the stub case;

a cathode positioned in the stub case, wherein the anode and the cathode are located at

opposite ends of a plasma creation region, wherein the plasma creation region is

aligned along a planar depth that is substantially transverse to the central axis; and

a vent assembly disposed between the plasma creation region and a propellant region.

2. (Original) The plasma injector assembly of claim 1, and further comprising a conductive wire that interconnects the anode and the cathode.

3. (Previously Presented) The plasma injector assembly of claim 1, wherein the plasma injector assembly has a tube with a first end and a second end, wherein the anode is placed in the first end, wherein the cathode is placed in the second end, and wherein the tube has at least one aperture formed therein such that a region inside the tube is in communication with the vent assembly.

4. (Previously Presented) The plasma injector assembly of claim 3, wherein the plasma injector assembly substantially ignites the propellant within about 1-2 milliseconds.

5. (Previously Presented) The plasma injector assembly of claim 1, wherein the plasma injector assembly produces plasma that is directed into the propellant region by a plurality of apertures in the vent assembly.

6. (Previously Presented) A plasma injector assembly for use in a munition having a central axis, the plasma injector comprising:

- a stub case for attachment to the munition along the central axis;

- a tube having a first end and a second end, wherein the tube has a central bore extending therethrough, wherein the tube has at least one aperture that is operably connected to the central bore, and wherein the tube is mounted to the stub case in an orientation that is substantially transverse to the central axis;

- an anode positioned proximate the first end;

- a cathode positioned proximate the second end;

- a conductive wire extending through the central bore between the anode and the cathode and operably connecting the anode and the cathode; and

- a vent assembly having an aft end and a forward end wherein the aft end is in communication with the tube and a forward end is in communication with a propellant.

7. (Previously Presented) The plasma injector assembly of claim 6, wherein the plasma injector assembly substantially ignites the propellant within about 1-2 milliseconds.

8. (Previously Presented) The plasma injector assembly of claim 6, wherein the vent assembly directs plasma into the munition in a plurality of directions so as to avoid a projectile guide mechanism.

9-11. (Canceled)

12. (Previously Presented) A munition comprising:

- a stub case;

- a casing attached to the stub case, wherein the stub case and the casing are oriented along a central axis;

- a projectile attached to the casing opposite the stub case, wherein the stub case, casing and the projectile define a substantially enclosed region;

- a propellant substantially filling the substantially enclosed region;

- a plasma injector mounted substantially within the stub case in communication with the propellant, wherein the plasma injector has an anode and a cathode that are aligned along a planar depth that is substantially transverse to the central axis; and

- a filler material having a channel formed therein, wherein the channel is adapted to receive the anode and the cathode, and wherein the filler material has at least one

aperture that extends through the filler material to the substantially enclosed region.

13. (Original) The munition of claim 12, wherein the plasma injector extends into the munition less than 12 percent of a length of the munition.

14. (Original) The munition of claim 12, and further comprising a conductive wire that interconnects the anode and the cathode.

15. (Original) The munition of claim 12, wherein the plasma injector has a tube with a first end and a second end, wherein the anode is placed in the first end, wherein the cathode is placed in the second end, and wherein the tube has at least one aperture formed therein such that a region inside the tube is in communication with the propellant.

16. (Canceled)

17. (Previously Presented) A munition comprising:

a stub case;

a casing attached to the stub case, wherein the stub case and the casing are oriented along

a central axis;

a projectile attached to the casing opposite the stub case, wherein the stub case, casing

and the projectile define a substantially enclosed region, wherein the projectile

has a guide portion that extends into the substantially enclosed region for a length that is at least one-half a length of the substantially enclosed region along the central axis, wherein the guide portion enhances the ability to accurately propel the projectile;

a propellant substantially filling the substantially enclosed region; and

a plasma injector mounted substantially within the stub case in communication with a vent assembly, said vent assembly to channel a plasma into the propellant, wherein the plasma injector has an anode and a cathode.

18. (Original) The munition of claim 17, wherein the plasma injector extends into the munition less than 12 percent of a length of the munition.

19. (Original) The munition of claim 17, wherein the guide portion extends more than 80 percent into a length of the substantially enclosed region.

20. (Previously Presented) The munition of claim 17, wherein the anode and the cathode are aligned along a single planar depth that is substantially transverse to the central axis.

21. (Original) The munition of claim 17, wherein the plasma injector has a tube with a first end and a second end, wherein the anode is placed in the first end, wherein the cathode is placed in the second end, and wherein the tube has at least one aperture formed therein such that a region inside the tube is in communication with the propellant.

22. (Previously Presented) A munition comprising:

a stub case;

a casing attached to the stub case, wherein the stub case and the casing are oriented along a central axis;

a projectile attached to the casing opposite the stub case, wherein the stub case, casing and the projectile define a substantially enclosed region;

a propellant substantially filling the substantially enclosed region; and

a plurality of plasma injectors mounted substantially within the stub case in communication with the propellant through a vent assembly, wherein each of the plasma injectors in the plurality of plasma injectors has an anode and a cathode that are aligned along a planar depth that is substantially transverse to the central axis.

23. (Original) The munition of claim 22, wherein the plasma injectors in the plurality of plasma injectors are connected in series.

24. (Original) The munition of claim 22, wherein the plasma injectors in the plurality of plasma injectors are connected in parallel.

25. (Previously Presented) The munition of claim 22, wherein each of the plasma injectors in the plurality of plasma injectors has a conductive wire that interconnects the anode and the cathode.

26. (Original) The munition of claim 22, wherein each of the plasma injectors in the plurality of plasma injectors has a tube with a first end and a second end, wherein the anode is placed in the first end, wherein the cathode is placed in the second end, and wherein the tube has at least one aperture formed therein such that a region inside the tube is in communication with the propellant.

27. (Previously Presented) The munition of claim 22, wherein each of the plasma ignitors in the plurality of plasma injectors has a filler material having a channel formed therein, wherein the channel is adapted to receive the anode and the cathode, and wherein the filler material has at least one aperture that extends through the filler material to the substantially enclosed region.

28. (Previously Presented) The munition of claim 27, wherein each of the plasma ignitors in the plurality of plasma injectors has an intermediate electrode between the anode and the cathode.

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